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## **Unmet Needs in Sex Education—What Adolescents Aim to Understand About Sexuality of the Other Sex**

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**Abstract:** Purpose: Sex education programs need to modify their focus in light of changing societal norms and increasing exposure to pornography. This study investigates what adolescents want to know about the sexuality of the opposite sex. This will allow practitioners to adjust sex education curricula to the needs of adolescents, thereby supporting the establishment of healthy, respectful, and sexually fulfilling relationships. Methods: Two thousand three hundred forty-three adolescents from the age of 11-19 years (123 classes) were asked to formulate questions addressed to the opposite sex as part of peer-led sex education classes, where girls and boys were divided into separate groups. Groups of 10-12 individuals each formulated about 11 questions, resulting in a total of 2,625 questions. The questions were categorized using content analysis. Results: The largest portion of questions addressed sexual interaction (35.8%), with many questions further addressing sexual preference (e.g., oral sex, sex positions) and the logistics and qualitative aspects of first-time sexual intercourse. Adolescents were also interested in questions about the body (e.g., anatomy, body hair, 15.2%), relationships (e.g., love, dating, 13.9%), ideal characteristics of men/women (10.5%), masturbation (10.1%), and pornography (7.3%). Conclusion: Adolescents show a high degree of interest in understanding the feelings and perceptions of the opposite sex. Acquiring this knowledge could be beneficial in building emotionally and physically fulfilling relationships. To increase adolescents' sexual and relationship competence, sexual education curricula should encompass pleasure and desire aspects of sexuality, initiating and managing relationships, societal ideals, and addressing pornography, in addition to sexual and reproductive health knowledge.

DOI: <https://doi.org/10.1016/j.jadohealth.2020.02.015>

Posted at the Zurich Open Repository and Archive, University of Zurich

ZORA URL: <https://doi.org/10.5167/uzh-199816>

Journal Article

Accepted Version

Originally published at:

Bauer, Max; Hämmerli, Silvan; Leeners, Brigitte (2020). Unmet Needs in Sex Education—What Adolescents Aim to Understand About Sexuality of the Other Sex. *Journal of Adolescent Health*, 67(2):245-252.

DOI: <https://doi.org/10.1016/j.jadohealth.2020.02.015>

# **Unmet needs in sex education - what adolescents aim to understand about sexuality of the other sex**

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**Short title:** Adolescents' questions about sexuality of the opposite sex

**Conflict of interest:** MB was an active member of the peer-led CSE program "Achtung Liebe."

**Funding:** None

**Acknowledgements:** We thank all participating adolescents for contributing to this study.

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## **Abstract**

**Purpose:** Sex education programs need to modify their focus in light of changing societal norms and increasing exposure to pornography. This study investigates what adolescents want to know about the sexuality of the opposite sex. This will allow practitioners to adjust sex education curricula to the needs of adolescents, thereby supporting the establishment of healthy, respectful, and sexually fulfilling relationships.

**Methods:** 2343 adolescents from the age of 11 to 19 years (123 classes) were asked to formulate questions addressed to the opposite sex as part of peer-led sex education classes, where girls and boys were divided into separate groups. Groups of 10 to 12 individuals each formulated about 11 questions, resulting in a total of 2625 questions. The questions were categorized using content analysis.

**Results:** The largest portion of questions addressed sexual interaction (35.8%) with many questions further addressing sexual preference (e.g., oral sex, sex positions) and the logistics and qualitative aspects of first-time sexual intercourse. Adolescents were also interested in questions about the body (e.g., anatomy, body hair, 15.2%), relationships (e.g., love, dating, 13.9%), ideal characteristics of men/women (10.5%), masturbation (10.1%), and pornography (7.3%).

**Conclusion:** Adolescents show a high degree of interest in understanding the feelings and perceptions of the opposite sex. Acquiring this knowledge could be beneficial in building emotionally and physically fulfilling relationships. To increase adolescents' sexual and relationship competence, sexual education curricula should encompass pleasure and desire aspects of sexuality, initiating and managing relationships, societal ideals, and addressing pornography, in addition to sexual and reproductive health knowledge.

**Keywords:** Sex education; Sexual health; Puberty; Sexuality; Psychosexual Development; Education

**Implications and Contribution:** Our study shows that adolescents' interests go beyond reproductive health, which is the current focus in sex education. To increase competence in establishing fulfilling

relationships, we propose that sex education provide information on all topics adolescents want to talk about and include the pleasure and desire aspects of sexuality.

Sexuality contributes significantly to a happy and healthy life [1]. As comprehensive sex education (CSE) in schools has proven to be effective in improving sexual knowledge and lowering sexual risk behavior [2-8], it has become part of the national curriculum in most European countries [9, 10]. CSE is more effective if adolescents participate actively in knowledge exchange, and the impact of teaching programs is proven to be higher when the content meets participants' needs [11, 12].

Today's sex education programs focus most often on sexual and reproductive health (SRH) with the aim of lowering sexual risk behavior [9, 13-16]. Although sexuality and relationships represent key topics for quality of life, the teaching of skills such as discussing intimate topics or initiating and shaping relationships is not a standard element of CSE [13, 14, 17]. In addition, the increasingly easy access to pornographic material [18-21] exposes adolescents to sexuality-related gender roles, which often stand in contrast to respectful relationships. Despite this, adolescents generally succeed in differentiating between pornographic material and real-life sexuality [22, 23]; this competence remains important and should be addressed continually to reinforce the conditions for fulfilling relationships. Nonetheless, the topic of pornography is largely neglected in sex education programs [9, 13-16].

During puberty adolescents are challenged with changing bodies, identities, and often intense sexual desire. Providing guidance during this challenging period is critical in order to increase sexuality-related self-confidence and nurture positive attitudes towards oneself and others [24]. This study of questions posed by adolescents to the opposite sex in peer-led CSE classes carries great potential for learning about adolescents' needs and interests in sexuality. The resulting findings can be used to adjust the content of teaching programs to the needs of adolescents, in order to improve motivation and participation in sex education classes. Therefore, this study aims to investigate (1) what adolescents want to learn from the opposite sex in sex education classes and (2) how sex and age relate to the questions they raise.

## **Methodology**

This investigation was designed as a prospective cohort study. Questions addressing the opposite sex were systematically collected from January 2014 to September 2015 in all 123 classes (1158 boys and 1184 girls) from 82 schools that offered CSE within a peer-led sex education program in the Canton of Zurich, Switzerland.

By law Swiss schools are obliged to offer CSE annually to adolescents above the age of 11 years. However, the methodology and the duration are not clearly defined: teachers' motivation, capability, and prioritization determine how to assign this topic. Teachers can give sex education classes themselves or invite external sex education services [10], such as the peer-led program presented here.

The questions evaluated in this study were collected within a specific peer-led CSE program conducted by students at the University of Zurich aged 20 to 27 years and participating voluntarily [25]. Before teaching sex education classes, the university students were required to participate in a standardized training program. This included obligatory attendance at lectures given by medical experts, sexual therapists, and senior members of the program. The training was designed to convey SRH knowledge, course structure, and teaching methodology.

A male and a female sex educator taught four to five hours of sex education in two blocks of two to two and a half hours. Pre-selected topics were anatomy, sexually transmitted diseases (STDs), contraception, love, relationships, sexual orientation/identity, and pornography. All subjects were taught interactively, including practical skill learning such as condom use or relationship-oriented role-play followed by group discussion. The last 45 minutes of a CSE class were held within sex-separated groups led by sex educators of the same sex in two different rooms, with the aim of

addressing gender-specific topics such as gynecological examinations or breast and testicular cancer.

At the end of these sessions and after a brief period of reflection, the groups were asked to formulate ten questions to be addressed to the opposite sex. The questions were chosen in open discussions and, after the exclusion of inappropriate questions (e.g., “Who is the most attractive girl/boy in the class?”), written down by the sex educator (examples in Table 4). The sex educators tried to minimize the influence of group dynamics by giving every individual the possibility to ask questions and by supporting the active participation of each adolescent. Then the questions were exchanged and the groups addressed formulated their answers. Finally, the class was reunited, and the answers were presented to the whole class by the sex educators. The questions were collected and used for the present study.

The data were digitalized and the questions were assigned to different categories using inductive category formation through content analysis [26]. Therefore, coding steps were based on grounded theory and the resulting categories emerged from the analysis of the data. Questions were labeled systematically, and categories were revised and further refined continuously throughout the process. The resulting categories were analyzed quantitatively and qualitatively and were compared using cross tables. Chi-squared testing was used to evaluate significant differences among categorical variables. A *p*-value of less than 0.05 was considered statistically significant. For statistical tests, IBM SPSS, Version 24, USA was used.

Questions were developed in a group setting, and apart from age and sex, no individual information on study participants was collected; therefore, the data were completely anonymous. The study was carried out in accordance with the Declaration of Helsinki 1964, as revised in 2013, and in agreement with the regulation of the local ethics committee [27]. At the end of the teaching block, the adolescents agreed to collect and evaluate the content of the questions generated.

## Results

Altogether, 2625 questions from 123 groups of boys and 123 groups of girls were evaluated, with an average of 11 questions per group.<sup>1</sup> The numbers of questions asked by different sex and age groups are presented in Table 1.

Table 2 presents how often different topics were addressed overall and by sex. Adolescents asked most frequently about sexual interaction (35.8%), specifically showing curiosity in understanding gender-specific differences in sexual preferences, first sexual intercourse, or arousing stimuli. Furthermore, they wanted to know about the body (15.2%), asking the opposite sex how they experience their genitalia and if and how they should shave their body hair. Questions on relationships (13.9%) regarding love, dating, and differing views and expectations were asked frequently and a substantial amount of interest was also given to ideal characteristics of men/women (10.5%).

Boys were more interested in the category sexual interaction (40.8% vs. 31.2%,  $p < 0.001$ ) and body (18.4% vs. 12.3%,  $p < 0.001$ ), whereas girls asked more questions about relationships (19% vs. 8.5%,  $p < 0.001$ ) and ideal characteristics of men/women (10.5% vs. 6.8%,  $p < 0.001$ ). Male anatomy was addressed more than twice as often as female anatomy, resulting from girls' asking almost only about male anatomy (60.1% vs. 2.4%), whereas boys asked the same amount of questions about male and female anatomy (28.2% vs. 28.2%). The categories masturbation and pornography didn't show a significant difference by gender in the number of questions but differed strongly by gender in the way the topic was addressed. Boys asked more about ever masturbated (88.1% vs. 19.2%,  $p < 0.001$ ) and ever consumed (pornography) (85.3% vs. 39.3%,  $p < 0.001$ ), whereas girls were more interested in frequency of masturbation (45.4% vs. 5.2%,  $p < 0.001$ ), technique of masturbation (18.5% vs. 3.7%,  $p$

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<sup>1</sup> 10.7±2.38 questions per group (girls 11.1±2.97, boys 10.3±1.74)



< 0.001), frequency of pornography consumption (29.2% vs. 0%,  $p < 0.001$ ), and favorite pornographic genre (14.6% vs. 5.9%,  $p = 0.044$ ).

Table 3 shows a further differentiation of subcategories that were addressed through the questions more than 100 times. Within the category of sexual preferences, we found a large diversity of topics with few significant differences by gender. Girls were more interested in ideal conditions for intercourse (16.8% vs. 8.5%,  $p = 0.019$ ) and sexual fantasies (14.5% vs. 6.7%,  $p = 0.016$ ), whereas boys asked more about sex toys (13% vs. 1.5%,  $p < 0.001$ ). In addition to direct questions related to the use of pornography, many detailed questions seemed to be inspired by pornographic material (e.g., aimed to clarify interest in unusual locations for intercourse, ejaculation on the partners body (cum shots), group sex, or anal sex). In the category male anatomy, boys were most concerned about size/shape of penis (74.2% vs. 16.8%,  $p < 0.001$ ) and girls wanted to know about experiences with penis (48.5% vs. 13.6%,  $p < 0.001$ ) and habits regarding penis (27.7% vs. 1.5%,  $p < 0.001$ ). That is, boys asked what girls think about their genitals (e.g., importance of penis size), while most girls did not ask about boys' reactions to their genitals but were much more interested in experiences with the penis (e.g., have you ever had an erection in school?).

Figure 1 presents the main categories of questions differentiated by age group. Groups aged 11-13 years were more interested in relationship (11-13 years: 18.2% vs. 14-16 years: 11.5% vs. 17-19 years: 10.5%,  $p < 0.001$ ) and body (17.7% vs. 15.7% vs. 8.9%,  $p = 0.004$ ). In the age group 14-16 years, the category masturbation was addressed more frequently (8.2% vs. 11.5% vs. 9.3%,  $p = 0.037$ ) and for adolescents aged 17-19 years questions about sexual interaction were more important (29.7% vs. 36.9% vs. 46.4%,  $p < 0.001$ ). No significant difference was found with regard to pornography (7.2% vs. 7.3% vs. 8.4%,  $p = 0.801$ ).

Regarding questions on sexual interaction, groups aged 11-13 years were more interested in the subcategories kissing (13.8% vs. 2.3% vs. 0.9%,  $p < 0.001$ ) and contraception (6.1% vs. 2.5% vs. 1.8%,  $p = 0.036$ ) (data not shown). In groups aged 17-19 years, questions on sexual preferences were more

important (25.9% vs. 40.4% vs. 49.5%,  $p = 0.005$ ). No significant difference was found with regard to first sexual intercourse, arousal, sexual orientation, experiences with sexual activity, and STDs. Regarding questions on relationships, groups aged 11-13 years asked more frequently about love (38.3% vs. 23.9% vs. 8%,  $p = 0.02$ ). No significant difference among age groups was found with regard to ideal relationships, family, others,<sup>2</sup> dating and gender roles.

Table 4 clarifies the classification of different categories by providing definitions and examples of questions.

## **Discussion and implications**

For many years some have criticized the limited focus of sex education in reducing sexual risk behavior, while neglecting treatment of the pleasure and desire aspects of sexuality [28-30]. They concluded that concentrating on risks and negative aspects associated with sexuality, especially of the female sexual anatomy, seriously compromised the development of healthy sexuality for both girls and boys. Extensive research has been conducted in the last decades, showing increasing evidence of the benefit of sex education [2-8], which led to the inclusion of sex education in public school curricula in many different countries [9, 13-16]. However, research has been focused mainly on the effects of sex education regarding sexual risk behaviors [2-8], and sex education programs worldwide are still limited to SRH content with the aim of reducing sexual risk behavior [9, 13-15, 17]. By providing a definition of sexuality that is limited to unhealthy aspects, this approach neglects the context of adolescents' everyday life. Consequently, recent studies evaluating adolescents' perspectives show that adolescents generally perceive the content of current sex education as boring and inadequate for their needs [13-15, 17]. In contrast, presenting sexuality as a positive and healthy aspect of life increases adolescents' ability to make beneficial sexual health decisions in real-life situations [15, 29]. Therefore, new forms of sex education programs with greater reciprocity between sex educators and adolescents

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<sup>2</sup> Flirting, relationship status, cheating, breaking up, violence, non-romantic relationships

covering more than just SRH knowledge present an opportunity to increase participation in classes, thus leading to a greater impact [11]. For these reasons finding out about adolescents' concerns is important to improve the impact of future CSE interventions by covering all sexual health related topics important to adolescents. The present study provides detailed insights into the context of adolescents' sexuality and can be utilized to identify relevant topics to be added to future sexual health programs.

Many of the questions collected for the present evaluation addressed specific sexual behavior and experiences of the other sex: knowledge that increases sexual competence and adapts behavior to potential partner expectations and needs. The apparent interest in questions on the appropriate age to initiate sexual activity demonstrates the insecurity of adolescents regarding this topic. Questions revolved around partnered sexuality but also masturbation and pornography. Adolescents were particularly interested in topics where discrepancies between male and female behavior might be expected, outlining an unmet demand for knowledge about sexual behavior of the opposite sex. The questions partly confirmed expected stereotypes, such as boys' interest towards girls' perception of their genitals, especially regarding penis size. Although our study design does not allow for an evaluation of the adolescents' motivation for participating and formulating questions (just wanting to understand or actively using this knowledge to initiate and/or maintain sexual relationships), they seem to be motivated to find out about a partners' feelings and views. We found one comparable study examining questions raised by individual 6<sup>th</sup> graders in sex education classes [31]. Despite these methodological differences, results were similar to our study, i.e., questions on sexual activity and behaviors, anatomy, and relationships were asked most frequently.

Questions about relationship building, love, expectations towards a partner, and the perception of ideal relationships were identified as other relevant topics. Again, the resulting answers to the questions allow for better adjustment of individual behavior towards partners, and they may consequently increase the likelihood of well-functioning relationships. Adolescents also used the opportunity to clarify delicate topics, for example whether a boy would agree to a relationship without sexual activity. Questions related to the initiation of relationships (e.g., how to know if someone is in

love, how to approach dating, and how to initiate sexual activity) show the tension among the reflections of adolescents, societal norms, and experienced reality. Being sexually active at a relatively young age might result in being unprepared or being labeled as promiscuous, while having first intercourse at a higher age might result in being identified as unattractive or insufficient as a partner or lover. Altogether, adolescents seek specific guidance on how to initiate and maintain relationships. CSE adjusted to foster the acquisition of such competences could help to reduce the psychological burdens related to this important developmental step towards adulthood [32].

During puberty physical appearances change significantly, and adolescents have to find their role as sexual beings; this includes developing a concept of attractiveness within a social and cultural context with specific norms on adequate looks [33]. This is reflected in the large proportion of questions about the body and the ideal characteristics of women and men. Questions about preferences regarding body hair were asked remarkably often by all groups. As body hair is a modifiable and visible anatomical feature and is subject to fashion trends, adolescents generally experience pressure towards conforming to beauty ideals. These findings indicate that providing the opportunity to reflect upon and contextualize societal ideals (e.g., with body hair as an example) within CSE classes could help meet adolescents' needs and reinforce self-confidence when confronted with such issues.

The interest in pornography was independent of age and gender. However, the formulation of questions regarding pornography and also masturbation differed strongly between boys and girls (Table 2). Boys mainly asked "Have you ever...?" questions, whereas girls asked about more detailed aspects, such as frequency of masturbation and pornography consumption, to what boys masturbate, or which pornographic genres they prefer. These differences can probably be attributed to the broader portrayal of male sexuality in the public realm. In contrast, female sexuality is often portrayed with a focus on menstruation and pregnancy, while the clitoris and its function receives only a little attention in school-based sex education and biology books [28-30]. Thus, sex educators should pay special attention to discussing male and female sexuality in an equitable manner in order to avoid neglecting the female sexual anatomy as an organ of sexual desire.

The overall interest in pornography, in agreement with other studies that have examined adolescents' exposure to pornography, suggests that both boys and girls are confronted with pornography from early adolescence [18-21]. Consequently, they need to acquire skills enabling them to contextualize these experiences and differentiate between pornography and real-life sexual activity. Current sex education programs generally do not seem to address this issue [9, 13-17]. Open discussions about pornography could support adolescents in the appropriate handling of pornographic material and should therefore be included in CSE practice.

Even though our results show that the interest in topics addressed within CSE classes varied by age group, all the main categories received substantial attention from all age groups, i.e., all topics generally seem to be relevant for any age groups. Significant differences were found regarding the topics sexual interaction, body, relationships and masturbation; in light of this, CSE programs might be adjusted by slightly shifting the focus of the topics discussed to reflect our findings about adolescents' interests. However, as these differences were minor, the general inclusion of topics in which adolescents are interested is more important than the precise attention given to each topic.

Studies show that high relationship satisfaction, good communication, and sexual assertiveness correlate with higher sexual satisfaction [34-36], and a fulfilling sex-life is shown to lead to better physical and psychological health, overall well-being, and quality of life [37-39]. Our findings underline the desire of adolescents to talk about qualitative aspects of sexuality, e.g., pleasure and desire aspects of sexuality, from the age of 11 years on. They are curious about sexual practice and relationship building, i.e., initiating and managing relationships, as well as societal ideals and pornography. Adding these topics to CSE programs will increase content relevance, improve the application of conveyed SRH knowledge in real-life situations, and empower adolescents with a positive, responsible attitude towards sexuality.

#### Strength and limitations

To the best of our knowledge, this is the only study that qualitatively evaluates how adolescents use the opportunity to ask the opposite sex questions about sexuality. As the development of questions was part of a standardized school-based sex education program, adolescents had adequate conditions (time and support by experienced peer sex educators) to define the topics in which they were really interested. Group dynamics and previously transmitted knowledge may have influenced the choices of questions. But, despite being part of the curriculum, the topics STDs, contraception, and sexual orientation were rarely put on the list of questions, while pornography and relationships were addressed in most classes. Therefore, adolescents selected their questions at least partly independently from the content of the teaching program. Also, as the questions were developed in a group setting, we cannot tell on an individual level if a question was rated as important.

The level of sexual experience of the adolescents at the time of the study, e.g., whether they had ever had sexual intercourse, likely influenced the types of questions they raised. However, we did not collect this background information and consequently were unable to assess the type and degree of association between an individual's level of sexual experience and the questions they raised.

The choice to invite a peer-led sex education program by schools might have resulted in selection bias. On the other hand, the format of open discussion, one of the main characteristics of peer-group education programs [40], provides an ideal opportunity to learn about the needs of adolescents.

As gender-separated teaching sessions did not include further differentiation by sexual orientation or identity, interests of homosexual or transgender adolescents might have received insufficient attention. Nonetheless, discussions were open to any questions and the teaching program carefully addressed sexual orientation and identity.

CSE programs should increase competencies regarding sexuality and relationships by addressing specific sexual activities and relationship building in addition to current reproductive health topics. Adjusting curricula to adolescents' needs will likely increase not only their participation in sexual education programs but also have a positive impact on their future sexual health decisions.

## Conflict of interest

MB was an active member of the peer-led CSE program "Achtung Liebe."

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